

Claims

- [1] A weight-training machine having an independent power generating function, which includes a plurality of stacks moving up and down by means of a pair of guides mounted vertically, a button unit disposed at a front center of the stacks and having the number of solenoid buttons corresponding to the number of the stacks and buttons inserted into insert holes of the stacks, and a wire guided by pulleys mounted to a frame,
- wherein a solenoid unit (600) having the solenoid buttons (610) is separated from the button unit so that the solenoid buttons (610) are installed to a position adjacent to heads of the buttons (230), wherein the buttons (230) are moved forward and backward electrically or manually, wherein a pair of generators (250) having a rod shape are installed at both rear sides of the stacks (240) so as to be parallel to each other vertically with a predetermined distance, and wherein a power supply (260) is installed below the generators (250) so that the power supply (260) is electrically connected to the generators (250) and the solenoid unit (600).
- [2] The weight-training machine according to claim 1,
- wherein the generator (250) includes a pipe (251) having a coil (251a) wound in contact with an inner side thereof, and a magnetic rod (252) combined to be movable in a length direction along inside of the coil (251a) and composed of a plurality of permanent magnets (252a) so that positive and negative poles are alternately laminated, whereby the generator (250) generates power by means of movement of the permanent magnets (252a) when reciprocating in the coil (251a) in a length direction along a selected stack (240).
- [3] The weight-training machine according to claim 1,
- wherein the power supply (260) includes a converting switch (261) provided with electric power selectively from the generators (250) and an external power source (510), an inverter (262) for converting AC supplied from the converting switch (261) into DC, and a charger (263) for charging the supplied DC.
- [4] The weight-training machine according to claim 1,
- wherein a generator (250a) is further installed to one of the pulleys (113).
- [5] The weight-training machine according to claim 1 or 3,
- wherein a sensor (611) for sensing operation of the solenoid button (610) is mounted to the solenoid unit (600), wherein a sensor (311a) is installed to a

controller (310) to operate a selected solenoid button (610) so that the button (230) is inserted into an insert groove (240a) of the stack (240), wherein the sensor (611) senses manual operation of the solenoid button (610) to make the controller (310) display a current exercising weight, wherein the sensor (311a) senses a user to be in an exercising position so that the controller (310) is operated when the user is in the exercising position and the power is automatically isolated when the user takes off from the exercising position.

[6] A weight-training machine having an independent power generating function, which a stack is mounted to a main body to be supported by guides and movable up and down by means of a wire, and the wire is guided by pulleys mounted to the main body so that an action point is adjusted by a weight adjustment device to control a load,

wherein the stack is uniformly divided vertically into several parts, wherein an insert groove (240a) is formed at a lower center of a front surface of each stack, wherein a fixing plate (220b) capable of moving forward and backward is inserted into the insert groove (240a) by a solenoid button (610) and a button (230) working together with the solenoid button (610) to select a weight, wherein a generator (250a) is installed to a frame at a position below the weight adjustment device so as to generate power by the wire passing via a moving device of the weight adjustment device.

[7] A stack for a weight-training machine having a weight adjustment device in which the number of buttons corresponding to the number of stacks is installed at a front center of the stacks, and in which a fixing plate is moved forward or backward by automatic or manual operation of the buttons so that the fixing plate is inserted into or taken out of the insert groove,

wherein a weight adjustment device insert groove (240k) is formed at a front center of the stack (240) so that the weight adjustment device (200) is inserted therein, wherein the fixing plate (220b) has a rectangular plate shape, wherein the insert groove (240a) is formed at a lower center of a side that forms a front surface of the weight adjustment device insert groove (240k) so that the fixing plate (220b) is inserted therein.